

AIM Ann Report  
1873

REPORT  
OF THE  
AUCKLAND INSTITUTE

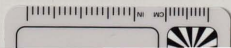
FOR THE YEAR ENDING FEBRUARY 17, 1873

ADOPTED AT THE ANNUAL MEETING HELD MAY 21, 1873

Auckland:  
WILLIAM ATKIN, GENERAL PRINTER, HIGH STREET

1873.

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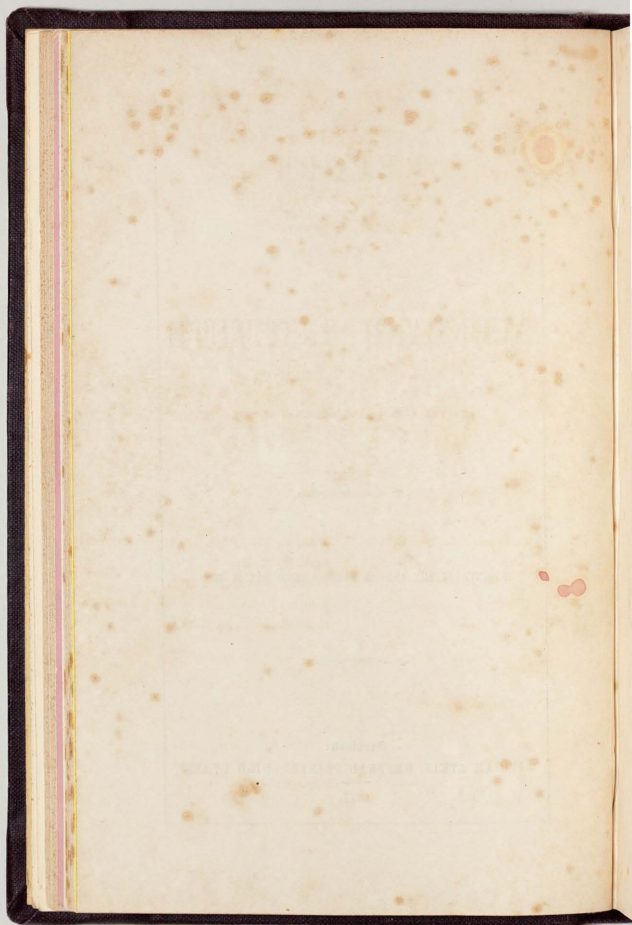
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OFFICERS

OF

THE AUCKLAND INSTITUTE.

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COUNCIL.

President.

T. B. GILLIES, Esq.

CAMPBELL, J. L., Esq., M.D.

HAULTAIN, THE HON. COL.

HAY, D., Esq.

HEALE, T., Esq., C.E.

KINDER, REV. J., D.D.

KIRK, T., Esq., F.L.S.

LUSK, H. H., Esq.

PURCHAS, REV. A.G., M.R.C.S.E.

RUSSELL, T., Esq.

STEWART, J., Esq., C.E.

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Secretary and Treasurer.

T. KIRK, Esq., F.L.S.

Auditor.

C. TOTBILL, Esq.



# AIM Ann Report 1873

*The following Magazines and Periodicals are circulated amongst the Members :—*

Quarterly Journal of Microscopical Science.  
Quarterly Journal of Science.  
Nature.  
Geological Magazine.  
Lancet.  
Art.  
The Academy.  
The Garden.  
Botanical Magazine.  
Gardener's Chronicle.  
Mechanics' Magazine.  
Scientific American.  
Chemical News.  
Popular Science Review.  
Engineering.  
Journal of Botany, &c., &c.

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## WINTER SESSION, 1873.

*Meetings will be held on the following Monday Evenings :—*

JUNE 9.  
JULY 7.

|  
OCTOBER 6.

AUGUST 4.  
SEPTEMBER 22.

*To Commence at 7.30 p.m.*

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### *Extract from the Rules.*

2. Any person desiring to become a member of the Institute, shall be proposed in writing by two members, and shall be balloted for at the next meeting of the Council.

3. New members on election to pay one pound one shilling entrance fee, in addition to the usual subscription of one pound one shilling, the annual subscriptions being payable in advance on the first day of April for the then current year.

4. Members may at any time become Life-members by one payment of ten pounds ten shillings, in lieu of future annual subscriptions.

## REPORT.

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THE Council of the Auckland Institute has pleasure in reporting that the fifth year of its existence has been marked by a considerable accession of new members, and by the same continuous interest in its objects and work that has characterized previous years.

Seven meetings have been held during the year, at which the following papers have been read and discussed :—

1. Introductory Address :—by the PRESIDENT.
2. On the Botany of the Lake District of the North Island :—by T. KIRK, F.L.S.
3. On the growth of *Phormium tenax* :—by the Hon. Col. HAULTAIN.
4. On the Botany of the Taupo District :—by T. KIRK, F.L.S.
5. On the Flight of the Black-backed Gull (*Larus dominicanus*) :—by Capt. F. W. HUTTON, F.G.S., C.M.Z.S.
6. On the Occurrence of the Clover Dodder in the Waikato District :—by Major MAIR.
7. Notes on the Naturalized Plants of the Chatham Islands :—by T. KIRK, F.L.S.
8. On Compound Engines :—by W. LODDER.
9. On the rate of growth of Native Trees :—by J. BABER, C.E.
10. On the Cultivation of Native Trees :—by D. HAY.
11. On the Conchology of Great Omaha :—by T. KIRK, F.L.S.

12. Notes on Terrestrial and Fluvial Shells, collected North of the Auckland Isthmus :—by T. B. GILLIES.

13. On the Fertilization of *Pterostylis* :—by T. F. CHEESEMAM.

14. Notice of a Remarkable Arborescent Fern on Ngongotaha :—by T. KIRK, F.L.S.

15. On the Specific Characters of *Dicksonia antarctica*, Br., and *Dicksonia lanata*, Col. :—by T. KIRK, F.L.S.

16. On a new mode of Compiling Tables of Logarithms :—by R. J. Pearce.

17. Notes on the Rurima Rocks :—by Major MAIR.

18. On the Mud-fish (*Neochanna apoda*) :—by G. G. FITZGERALD, communicated by W. C. Roberts.

19. On the Mud-fish (*Neochanna apoda*) :—by S. E. VOLLAMS, communicated by W. C. Roberts.

20. On a remarkable instance of Refraction of the Hakarimata and Taupiri ranges :—by Major MAIR.

21. Further Notes on the Nativity of *Polygonum aviculare* in New Zealand,—in reply to W. T. L. Travers :—by T. KIRK, F.L.S.

Most of the above will appear in the fifth volume of "Transactions of the New Zealand Institute."

Notwithstanding the serious and increasing disadvantages under which the business of the Institute is conducted from the want of a suitable building, the number of visitors to the Museum has been larger than during any previous year, and the value of the Reference Library is becoming more widely known and generally appreciated. Considerable additions have been made to the contents of the Library and Museum, the particulars of which are appended.

The type collection of minerals purchased in Europe has been temporarily placed in new cases, but will be entirely rearranged as soon as sufficient space can be



obtained. The collection has attracted considerable attention from visitors, and is frequently consulted for the identification of minerals brought by visitors from the Thames and other localities. The collection of native birds is a constant source of interest, and the Council solicits the assistance of the country members towards making it as complete as possible. Considerable additions have been made to the Herbarium, which is frequently visited for the purposes of study and reference.

In addition to the ordinary work of the Institute, considerable assistance has been afforded to the public in the identification of minerals, birds, insects, and plants. During the past year the demands upon the Secretary's time in this direction have been heavier than in any previous year, and although often complied with under circumstances of considerable difficulty, afford proof of the readiness of a small section of the community to avail itself of a portion of the advantages offered by the Institute.

There can be no question that much of the interest now manifested in scientific pursuits throughout the colony is due to the publication of the Annual Volume of Transactions of the New Zealand Institute, and the Council believes that this alone is doing good service in placing the value of the work accomplished by the affiliated societies fairly before the general public. The fourth volume (1871) has been duly distributed amongst the members, and it is expected that the fifth volume will be ready for distribution before the close of May.

The Council would also point with pleasure to the descriptive Catalogues of our native Birds, Fishes, Echinoderms, Whales, Shells, &c., issued by the Geological Survey Department, as works well adapted to assist students of natural history, and diffuse a knowledge of the natural productions of the colony.

And the Council has especial pleasure in recording the efforts now being made to establish classes for the study of

certain branches of natural science in connection with the Auckland College and Grammar School. If successful they cannot be otherwise than productive of good to the community, and it becomes the more desirable that the Museum should be placed in an efficient condition so as to afford all possible facilities to students.

But it must be remembered that the Auckland Museum is the only public Museum in the colony that does not receive systematic assistance from the local Provincial Government, and in the present condition of its building, which is mean and uninviting in appearance, while it is far from weatherproof, its work is performed under disadvantages which are a constant source of discouragement and depression to those who have the management of its affairs. The Council indulges the hope that arrangements may be made during the coming season which will lead to beneficial results.

**Dr. THE TREASURER IN ACCOUNT WITH THE AUCKLAND INSTITUTE. Cr.**

To Balance in Bank of New Zealand, Feb. 18, 1872....	£	s.	d.	By Curator.....	£	s.	d.
Subscriptions .....	187	19	0	Objects for Museum, &c. ....	125	0	0
Rents.....	43	11	0	Books and Periodicals .....	32	1	6
Books, &c., sold .....	16	4	0	Museum Requisites, Printing, Advertising, &c. ....	26	9	3
Interest allowed by New Zealand Savings Bank....	0	10	4	Interest carried to Investment Fund.....	36	13	8
				Insurance .....	0	10	4
				Balance in Bank of New Zealand .....	7	10	0
					51	19	11
	£280	4	8		£280	4	8

**BUILDING FUND ACCOUNT.**

To amount brought forward, Feb. 18, 1872.....	£	s.	d.	By amount deposited in Auckland Savings Bank .....	£	s.	d.
	10	0	0		10	0	0

**INVESTMENT FUND ACCOUNT.**

To amount brought forward, Feb. 18, 1872 .....	£	s.	d.	By amount deposited in New Zealand Savings Bank....	£	s.	d.
Interest.....	10	14	4		11	4	8
	0	10	4				
	£11	4	8		£11	4	8

May 19, 1872.

Audited and found correct,

THOS. KIRK, TREASURER.

CHARLES TOTHILL.

P.S.—Owing to the Secretary's absence through illness in February it was deemed advisable to adjourn the Annual Meeting, which has rendered it necessary to include the expenditure for three months of the current year in the above statement.

ADDITIONS AND DONATIONS  
TO THE  
LIBRARY AND MUSEUM.

- Loudon's Arboretum et Fruticetum Britannicum, 8 vols., plates and letter press—The Hon. Col. Haultain.
- On Wool Supply, by A. Hamilton—Dr Campbell.
- Parliamentary Papers and Reports—The Colonial Secretary.
- The Intellectual Observer, vols. 1 and 2—P. A. Philips.
- Proceedings of the Provincial Council of Otago—The Superintendent of Otago.
- Two Engravings, British Birds—W. B. Barber.
- Catalogue of the Fishes of New Zealand, by Capt. F. W. Hutton, F.G.S.; Colonial Museum and Laboratory Reports; Report of Geological Exploration, 1871-2; Catalogue of New Zealand Echinodermata, by Capt. F. W. Hutton, F.G.S.—The Director of the Geological Survey Department.
- Thesaurus Craniorum, by J. B. Davis, M.D.; On the Skulls of Inhabitants of the Caroline Islands, by J. B. Davis, M.D.—W. Atkin, Tamaki.
- Acts and Ordinances of the Provincial Council of Auckland, Session XXVIII.—The Provincial Secretary.
- An Enumeration of Plants, eligible for Industrial Culture, by Baron Ferd V. Mueller—The Author
- English Church Bible, with Apocrypha; Chronological Tables, &c., &c., date, 1706—J. George.
- Silk Supply Journal, May 1, July 15, Oct. 14, 1871, Jan. 15, 1872—Dr. J. L. Campbell.
- Phormium tenax as a Fibrous Plant—The Hon. Col. Haultain.
- History of the Birds of New Zealand, parts 1-4, by W. L. Buller—The Colonial Secretary.
- The Colonies, by A. Hamilton—Dr Campbell.
- The Albertland Gazette, No. 4—R. Mair.
- Plan of the Albert Barracks, 1862—J. Doull.
- Geological and Topographical Maps of Victoria—The Minister of Lands, Victoria, per T. B. Gillies.
- Proceedings of the Zoological Society of London, parts 1, 2, 3, for 1871, part 1, 1872.
- Transactions of the Zoological Society of London, parts 6, 7, 8, of Vol. VII., parts 1 and 2, Vol. VIII.



Herschel's Meteorology.  
Herschel's Physical Geography.  
Darwin's Origin of Species.  
Youmann's Culture of the Observing Power in Children.  
Hartwig's Subterranean World.  
Smith's Domestic Botany.  
Bastian's Beginnings of Life, 2 vols.  
Jukes' Manual of Geology.  
Huxley's Manual of Anatomy of Vertebrated Animals.  
                    &c.,      &c.,      &c.

*The following have only been received during the past year, although their cost was charged in the Balance Sheet for the year ending Feb. 19, 1872 :—*

Gray's Australian Lizards.  
Yeat's History of Commerce.  
Proctor's Sun.  
Agassiz on Modes of Observing.  
Beale on the Microscope.  
Mongredien's Ornamental Trees.  
Darwin's Origin of Man, 2 vols.  
Roscoe's Spectrum Analysis.  
Rolleston's Animal Life.  
Blackwall's Spiders.  
Westwood's Insects, 2 vols.  
Wood's Natural History of Man, 2 vols.  
Newman's Moths.  
Jeffrey's Conchology, 5 vols.  
Berkeley's Fungology.  
Seeman's Flora Vitiensis, parts 1-9.  
Atlas of Comparative Osteology.  
Nicholson's Manual of Zoology.  
Jardine's Naturalist's Library, 40 vols.  
Dana's System of Mineralogy.  
Lyell's Students' Elements of Geology.  
Mivart's Genesis of Species.  
Warren's Jerusalem Recovered.  
Wallace on Natural Selection.  
Wallace's Travels on the Amazon.  
Rye's British Beetles  
Glaisher's Travels in the Air.  
Robinson's Parks and Gardens of Paris.  
Crooke's Manufacture of Beet-Root Sugar.  
Owen's Anatomy of Vertebrates, 3 vols.  
Griffith's Micrographical Dictionary, parts 1-3.  
                    &c.,      &c.,      &c.



Type Collection of Minerals, 500 specimens.  
Collection of Gems and Precious Stones.  
Collection of Models to illustrate the Six Systems of Crystallography.

Limestone Concretions with imbedded Shells, Serpentine, 4 Rock Specimens—G. Ross, jun.

Taranaki Iron Sand, Clay used in Smelting, and Finished Steel—S. Balance.

Sand suitable for Glass Manufacture, Waitemata—S. Anderson.

Crystallized Gold, Flaky Gold, Thames—T. Hannaford per T. B. Gillies.

Arragonite—T. L. White.

Fossils from the Manukau—Rev. A. G. Purchas.

Stibinte—T. Heale.

Obsidian and 3 Rock Specimens, Tuhua Island—W. Lodder.

Two Stalactites, Bog Iron Ore, from a depth of 300 feet, Californian Drive, Tararu— —. Steadman per Dr. J. L. Campbell.

Indian Jasper—The Hon. Col. Haultain.

Three Specimens Native Sulphur, one Specimen Fibrous Gypsum, White Island—Captain Fairchild.

Cassiterite, with Wood Tin and Stream Tin, Australia—Dr. Fischer, F.L.S., &c.

Foot Print of a Moa, Poverty Bay—H. H. Lusk.

Copper Ores prepared for the Market, from the Aotea Copper Mine—T. Kirk, F.L.S.

Fossil Shells, Matakana—C. Matthews.

Fossil Leaf Impression, Hamilton—W. Steel.

Stalactite and Stalagmite—Rev. A. G. Purchas.

Specimens of Volcanic Rocks—Rev. A. G. Purchas.

Skeleton of Fish—"Golden Crown" Steamer.

Skin of Puffinus—A. Vilcoq.

Egg of Kiwi—A. Vilcoq.

Hepialus virescens—R. J. Pearce.

Hepialus virescens—T. Heale.

Two Native Fishes—Rev. A. G. Purchas.

Skin of Petrel—J. Wardell.

Solenognathus spinosissimus—J. Davis.

Solenognathus spinosissimus—A. Vilcoq.

Solenognathus spinosissimus—R. Wyles.

A Cermatia—Captain Breton.

A Lizard—A. Vilcoq.

A Centipede—Mrs Kemp.

A Centipede—M. Blandford.

A Centipede—Dr. J. L. Campbell.

Skin of Bittern—Sir G. F. Bowen, G.C.M.G., &c.

Three Fijian Snakes—C. Phillips.  
Skull of Ziphid Whale—Master of "Dolly Varden" Cutter.  
One Petrel Skin.  
One Petrel set up.

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New Zealand Shells—T. Kirk, F.L.S.  
Shells from New Caledonia—W. Lodder.  
New Zealand Shells—W. Lodder.  
New Zealand Shells—Archdeacon W. L. Williams.  
*Teredo antarctica*—T. Kirk, F.L.S.  
*Pinna pectinata*—M. Blandford.  
Shells of Pearl Oyster, with coral, Tahiti—S. Browning.  
New Zealand Shells—Miss Purchas.

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A collection of Moriori Stone Weapons from Chatham Islands—  
T. Morrin.

Two Harpoons, found imbedded in Whales at a considerable depth  
below the skin—A. Vilcoq.

Three Maori Crania—Rev. J. Kinder.

Samples of Wool prepared for dyeing—L. D. Nathan & Co.

Section of Tasmanian Hardwood pile, perforated by Teredines, with  
attached Kauri Sections not touched by the mollusk—J. E.  
Macdonald.

4 Specimens Woven Phormium—The Director of the Colonial Museum.

One Greenstone Adze, one Stone Adze—G. Ross, jun.

New Zealand Silk—Dr. J. L. Campbell.

Two Specimens Fijian Pottery—C. Phillips.

Native Weapons, Native Fish-hooks—A. Vilcoq.

Fijian Arrows, &c.—Rev. J. Kinder

Inscription Stone, from Fort Britomart—Owen Jones.

Feathers of the O'o, a rare bird of the Sandwich Islands—G. Donaldson.

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5 Copper Coins—W. B. Barber.

Silver Penny, Edward I.; Silver Shilling, Elizabeth; Silver Peruvian  
Dollar; Silver Prussian Groschen; Silver 3 Pfening Prussia—  
R. C. Barstow, R.M.

1 Copper Coin, Charles X.—W. Lodder.

4 Silver Coins; 6 Bronze Coins—Rev. F. Galosi.

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Specimens of Economic Vegetable Products; Dried New Zealand  
Plants from the Taupo Country—The Director of the Colonial  
Museum.

Dried New Zealand Plants—T. Kirk, F.L.S.

# AIM Ann Report 1873

## AUCKLAND INSTITUTE.

*List of Members for the Year ending March 31st, 1873.*

### LIFE MEMBER.

Leaf, C. J., F.L.S., S.A., G.S., &c., London.

Aickin, G., Auckland  
Aitken, W., Auckland  
Alexander, C., Auckland  
Allom, A. J., Shortland  
Atkin, W., Tamaki  
Atkin, William, Auckland  
  
Baber, J., C.E., Auckland  
Ball, T., Mongonui  
Barstow, R. C., Epsom  
Beere, D. M., Shortland  
Beetham, A., Auckland  
Brookfield, F. M. P., Auckland  
Bruce, Rev. D., Auckland  
Buchanan, Jas., Auckland  
Buchanan, Jno., Auckland  
Buckland, J. S., Auckland  
Buckland, W. T., Auckland  
Buller, Rev. J., Grahamstown  
  
Campbell, H., Auckland  
Campbell, J. L., M.D., Auckland  
Chamberlin, The Hon. H.,  
M.L.C., Parnell  
Chapman, G. T., Auckland  
Cheeseman, T. F., Remuera  
Clark, J. M., Auckland  
Clarke, H. T., Tauranga  
Cochrane, S., Auckland  
Codrington, Rev. R. H., Norfolk  
Island  
Cowie, The Right Rev. W. G.,  
D.D., Bishop of Auckland  
Cruikshank, D. B., Auckland  
  
Daldy, W. C., Auckland  
Davy, G. B., Shortland

Dawson, F. W. H., M.D.,  
Auckland  
Dyson, R. W., Auckland  
  
Earl, W., Remuera  
  
Farmer, The Hon. J., Remuera  
Firth, J. C., Auckland  
Fish, T., Auckland  
Floyd, W. H., Auckland  
Ford, S. H., M.D., Russell  
Fox, A., M.R.C.P., Shortland  
Fraser, G., Auckland  
Fraser, J. M., Auckland  
  
George, J., Auckland  
Gibbons, E., Onehunga  
Gillies, His Honor T. B., Super-  
intendent of the Province of  
Auckland  
Gittos, B., Auckland  
Goldsboro', C. F., M.D., Auck-  
land  
Gorrie, W., Auckland  
Graham, W. K., London  
  
Hall, J. W., Grahamstown  
Hankey, E. A., London  
Hannaforde, M., Remuera  
Harding, S., Auckland  
Haultain, The Hon. Col. T. M.,  
Auckland  
Hay, D., Auckland  
Hay, W., M.G.A., Papakura  
Heale, T., C.E., Auckland  
Heaphy, C., V.C., Major A.R.V.  
Heather, A., Auckland  
Henderson, J., Wellington

Henderson, T., jun., Auckland  
Higginson, H. P., Superintending Engineer for South Island  
Hill, W., jun., Auckland  
Hobbs, R., Auckland  
Humphreys, W., Auckland  
Hunt, R. R., Ngaruawahia  
Hunt, W. A., Remuera  
Hutton, Captain F. W., F.G.S., Wellington

Jackson, S., Auckland  
Jones, Owen, Auckland  
Jones, S., Auckland  
Jordan, R. C., Tauranga

Kenney, N., Ngaruawahia  
Kidd, R., LL.D., Auckland  
Kinder, Rev. J., Auckland  
Kinloch, E., Otahuhu  
Kirk, T., F.L.S., Auckland  
Kirton, G., Napier  
Kissling, G. S., Parnell

Lackland, J., Auckland  
Lamb, J., Riverhead  
Larkworthy, F., London  
Lee, W., M.R.C.S.E., Auckland  
Lodder, W., Parnell  
Lusk, H. H., Auckland  
Lyell, J. L., Epsom

MacCormick, J. C., Auckland  
Macdonald, D. E., Auckland  
Macfarlane, J. S., Auckland  
Macfarland, R. J., C.E., Grahamstown  
Macfarlane, T., Auckland  
Mackay, R., Auckland  
MacKechnie, E. A., Auckland  
MacKellar, H. S., Auckland  
Mackelvie, J. T., Auckland  
MacLean, B., Tamaki  
MacLean, The Honourable D., Napier  
MacLean, E., Howick  
MacRae, F., Auckland

Mair, Captain G., Tauranga  
Mair, H. A., Parnell  
Mair, R., Wangarei  
Mair, Major W. G., Alexandra  
Manning, F. E., Hokianga  
Mason, J., Parnell  
Maunsell, The Ven. Archdeacon, Parnell  
Meinertzhagen, F. H., Napier  
Mitford, G. A., Parnell  
Morton, H. B., Auckland  
Morrin, T., Auckland  
Morrin, W., Auckland  
Monro, H. A. H., Auckland  
Murdoch, D. L., Epsom

Nation, Colonel, Parnell  
Nicholson, J. R., M.D., Auckland

O'Neill, C., Auckland  
Ormond, The Honourable J. D., Napier  
O'Rorke, G. M., Onehunga  
Owen, G. B., Epsom

Palmer, W. J., Auckland  
Peacock, T., Auckland  
Pearce, R. J., Auckland  
Perkins, E., Auckland  
Phillips, P. A., Auckland  
Phillips, C., Auckland  
Phillipson, T., Auckland  
Pollen, The Hon. D., M.D., Te Whau  
Preece, J. W., Auckland  
Purchas, Rev. A.G., M.R.C.S.E., Onehunga

Rapson, S., Auckland  
Robertson, J., Auckland  
Roberts, W. C., Hokitika  
Russell, T., Auckland

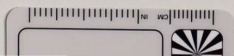
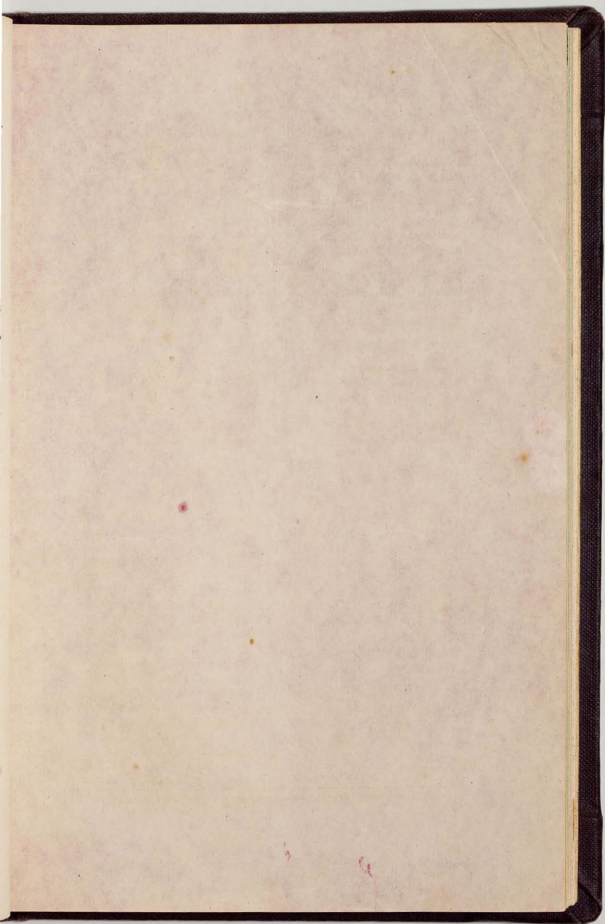
Scott, W., Paterangi  
Sheath, A., Auckland  
Sheehan, J., M.G.A., Auckland

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Sheppard, A. M., Whangape	Wark, J. N., Sydney, New South Wales
Shera, J. M., Auckland	Wayland, J. M., Onehunga
Sinclair, A., Auckland	Waymouth, J., Grahamstown
Smart, J., Auckland	Wayte, E., Auckland
Smith, S. P., Auckland	Webster, J., Hokianga
Spencer, W. J., M.D., Napier	Weetman, S., Auckland
Stewart, J., C.E., Auckland	Weston, T. S., Auckland
Stewart, T. M., Melbourne	Whitaker, F., Auckland
Stone, C. J., Auckland	White, T. L., Auckland
Taylor, C. J., Tamaki	Will, W., Auckland
Thorne, G., jun., Auckland	Williams, H., Bay of Islands
Tinne, T. F. S., Auckland	Williams, The Ven. Archdeacon W. L., Poverty Bay
Tothill, C., Auckland	Williamson, The Hon. Jas., Auckland
Upton, J. H., Auckland	Wilson, Capt. J., Cambridge
Vilcoq, A., Russell	Wilson, J. I., Whangarei
Vogel, The Hon. J., Wellington	Wilson, W. C., Auckland
Von der Heyde, G., Auckland	Wright, F.W., L.M.B. Toronto, Auckland
Wardrop, A., Auckland	Wrigley, J., Auckland
Ware, W., Auckland	



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